

ACC NR: AP7000036

glycerin solutions of fluorescein, glycerin solutions of tripoflavin and rhoduline orange and rhodamine-B, and alcohol solutions of eosin and erythrosine as well as the aqueous solutions of fluorescein and the alcohol solutions of tripoflavin investigated earlier. The second group includes alcohol solutions of phloxin, Bengal rose, flavophosphine, and aurophosphine. Differences between the present results and those published by others are discussed. Simultaneously with measuring the quantum yield the authors investigated carefully the absorption spectra, and found that the absorption coefficients of the first group change with temperature, resulting in an increase of spectral width. The absorption coefficients of the second group do not change with temperature. The slopes of the quantum-yield curves are affected by the type of solvent used. Typical values are (in multiples of 10^{-14}) 10.8, 12.0, 11.8, and 13.5 for glucose, water, ethyl alcohol, and glycerin, respectively. The temperature dependence is attributed to changes in the populations of the vibrational levels of the molecules. Some unexplained points are briefly discussed. The authors thank A. Budo and I. Ketskemeti for continuous interest and useful advice. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 20/ SUBM DATE: 19Mar66/ ORIG REF: 003/ OTH REF: 003

Card 2/2

KHEVESHI, Yu. [Hevesi, Gyula] akademik

Questions relating to the work conditions and the utilization of basic assets of production from the point of view of the long-range planning of industrial development. Acta techn Hung 11 no.1/2:3-23 '62.

1. Direktor Nauchno-issledovatel'skoy gruppy po ekonomike promyshlennosti A.M.V., chlen redaktsionnoy kollegii "Acta Technica Academiae Scientiarum Hungaricae."

KHEVESI, G. [Hebessi, H.] (Vengerskaya Narodnaya Respublika)

Eliminating the idle time of plants during nonworking days and
introducing continuous production in the Hungarian People's
Republic. Biul.nauch.inform.: trud i zar.plata 5 no.11:36-41 '62.
(MIRA 15:12)

(Hungary—Industrial management)

KHEVROLICH, V., kandidat tekhnicheskikh nauk.

Use of superregenerators in linear systems. Radio no.2:
30-33 F '55. (MIRA 8:3)
(Amplifiers, Electron-tube)

KHEVROLIN, V. YA.

21729

KHEVROLIN, V. YA. Pomekhi pri mnogokanal'noy svyai na ukv.
Studenich. Nauch-Tekhn. Sbornik (Mosk. elektrotekhn. III-T
Svyai), 7, 1949 S. 17-54 -- Bibliogr: 11 Naev.

SO: Letopis'Zhurnal'nykh Statey, No. 29, Moskva, 1949

USSR/Electronics - FM Receivers

June 53

KHEVROLIN, V.

"The Intermediate-Frequency Amplifier of an FM Receiver," V. Khevrolin

Radio, No 6, pp 31-35

Discusses the selection of an intermediate frequency, choice of tubes for an i-f amplifier, and selection of an i-f filter. Mentions that while a frequency swing of ± 75 kc is presently accepted for FM broadcasting, a change to restrict this to ± 50 kc is under consideration.

261-T68

KHEVROLIN, V.

Superregenerative reception. Radio no. 8:37-41 Ag '53. (MLRA 6:8)
(Radio frequency modulation)

KHEVROLIN, V.

USSR/Electronics - Radio Receivers
Ultrashort-Waves

Oct 53

"Constructing Circuits of Combined [AM/FM/USW] Radio
Receivers," G. Kostandi, V. Khevrolin

Radio, No 10, pp 28-31

Author proposes standards for ultrashort-wave re-
ceivers regarding frequency, selectivity, and sensi-
tivity. Discusses selection of circuit components
for FM receivers, use of reflex circuits, and gives
7 block diagrams of combined AM/FM/USW circuits.

276125

KHEVROLIN, V. Ya. (Engr)

Dissertation: "The Theory and Calculation of a Super-Regenerator in Linear Arrangement and Ways of Practical Application." Cand Tech Sci, Moscow Electrical Engineering Institute of Communications, 30 Jun 54. (Vechernyaya Moskva, Moscow, 22 Jun 54)

SO: SUM 318, 23 Dec 1954

KHEVROLIN, V.

USSR/ Electronics - Regenerative circuits

Card 1/1 Pub. 89 - 18/32

Authors : Khevrolin, V.

Title : The application of ultra-high frequency linear regenerative circuits

Periodical : Radio 2, 30 - 33, Feb 1955

Abstract : Methods of adjusting and operating an UHF receiver incorporating linear regenerative circuit are described. graphs and circuit diagrams are presented, together with technical specifications. Graphs, diagrams.

Institution:

Submitted:

AUTHOR: Khevrolin, V. Ya., Member of the Society 108-1-4/10

TITLE: On the Theory of a Super-Regenerative Receivers With Linear Operation (K teorii superregenerators, rabotayushchego v lineynom rezhime)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 1, pp. 40-55 (USSR)

INSTITUTE : DEYSTVITEL'NOYE NAUCHNOE - TEKHNIЧЕСКОЕ ОБЩЕСТВО RADIO TEKHNIKI I ELEKTROSVYAZI IMENI A. S. POPOVA

ABSTRACT: The author tried to give the simplest possible theory for super-regenerative receivers as well as a method for their calculation. The first part of this work was given in ref.4. Here the results of another reformation of the theory are shown. The theory of the electric processes in the circuit of a super-regenerative received with linear operation is investigated. First the equations of the processes occurring in the super-regenerative received are deduced. The oscillation processes in the circuit are the subject of investigation. The parameters C and R of the circuit are in the general case functions of time and of the current in the circuit. With linear operation they do not depend on the current, and are periodic functions of time. The equations (5) are deduced. These form the basis for further

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On the Theory of a Super-Regenerative Receivers With
Linear Operation

108-1-4/10

investigation. All super-regeneration received parameters are determined by the law for the modification of the circuit-decrement with time i.e. by the shape of the function $q(t)$. For the case where a resonance signal is effective the equation (5) simplifies to equation (6). Any special value of the integral $\int \delta dt$ can be put in (6). It is here assumed to

$$D_t = \int_0^t \delta dt .$$

Two special cases are investigated: The law for the dying-out of rectangular and of saw-tooth waves. The condition (20) for the stability is deduced. This condition is valid for all laws of a change of dying-out.- An approximate solution of the problem with a resonance signal is given for the general case. First the formula (25) for the amplification of the resonance signal by the super-regenerative receiver is put down for the general case, and the character of the functions $D(t)$ and $D_t - D_{t_1}$ is investigated for the most

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simple laws of dying-out changes.- The comparison of the calculation results according to exact formulae with the here obtained results shows good agreement. An experimental checking showed a sufficient accuracy in the computation of amplification according to the method given here (ref. 4). The results obtained make it possible to draw conclusions as to the magnitude of the amplification. Based on these conclusions the calculation of resonance amplification with great amplifications can be essentially simplified. The errors which occurred in other works in the formulation of the condition for a stable amplification are shown. The conditions for the obtaining of a high selectivity are deduced (39). Based on this equation the following can be said on the selectivity of a superfeed-back for the dying-out modifications of rectangular waves: 1.- The selectivity does not depend on the amplification. 2.- The selectivity does not depend on the superregenerated frequency. 3.- With normal M -values (some units) the maximal selectivity of the super-regenerative receiver is very low (also some units).

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On the Theory of a Super-Regenerative Receivers With
Linear Operation

108-1-4/10

There are 9 figures, and 10 references, 10 of which are
Slavic.

SUBMITTED: October 28, 1956 (initially) and September 4, 1957 (after
revision)

AVAILABLE: Library of Congress

1. Super regenerative receivers 2. Mathematics-Theory

Card 4/4

6(4)
AUTHOR:

Khevrølin, V. Ya.

SOV/108-13-11-14/15

TITLE:

Concerning the Letter by L. S. Gutkin
(Po povodu pis'ma L. S. Gutkina)

PERIODICAL:

Radiotekhnika, 1958, Vol 13, Nr 11, pp 79-80 (USSR)

ABSTRACT:

This is a letter to the editor. In his letter Gutkin mentions two subjects: 1) He proves that an error has been committed in connection with the derivation of stability conditions and that therefore the result obtained is wrong. 2) He alleges that the conclusions drawn with respect to the domain of constant amplification are wrong. To this the following comments are made: 1) What is said with respect to point 1) is correct. 2) The criticism with respect to point 2) is unfounded. These statements are substantiated.

Card 1/1

KHEVROLIN, Ya.

Steam treating of rye (from "Die Getreidemühle," no.7 1961).
Muk.-elev. from. 28 no.5,32 My '62. (MIRA 15:5)
(Germany, East--Rye) (Germany, East--Flour mills)

KHEVROLIN, Ya.

Air-pressure supported storehouse structures (from "Samost," no. 20,
1960). Muk.-elev. prom. 28 no. 6:29 Jo '62. (MIRA 15:7)
(United States—Buildings, Plastic)
(United States—Buildings, Prefabricated)

MALICHOVSKIY, Rudol'f [Maličovsky, Rudolf], inzh.; KHEVROLIN,
Ya.I [translator]; KLEDO, M.A., inzh. nauchn. red.;
GORDEYEV, P.A., red.

[Assembling structural elements of industrial buildings.
Abridged translation from the Czech] Montazh stroitel'-
nykh konstruktsei promyshlennykh sooruzhenii. Moskva,
Stroiizdat, 1964. 86 p. (MIRA 17:6)

KHEVRUNIN, I.S., inzhener.

Determining the minimum area of a cross section for bunched cables,
Sudostroeni 23 no.7:33 J1 '57. (MLRA 10:8)
(Electricity on ships)

6(0), 9(0)

SOV/112-59-5-9916

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 212 (USSR)

AUTHOR: Dun'ye, V. L., and Khevrudin, I. S.

TITLE: Transmission of a Square Pulse Through a Detuned Oscillatory System That Has a Bell-Shaped Resonance Curve

PERIODICAL: Tekhn. teletvideniya. M-vo radiotekhn. prom-sti SSSR, 1957, Nr 23, pp 48-57

ABSTRACT: A formula has been derived for computing the envelope of the output voltage of a band filter, that has a bell-shaped resonance curve; transmission of a pulse whose frequency differs from resonant is considered. The solution is based on expressing definite integrals in the form of a series consisting of Kramp's functions or their derivatives:

where $\phi^{(2n)}\left(\frac{t}{2\sqrt{a}}\right)$ is the Kramp's function derivative;

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SOV/112-59-5-9916

Transmission of a Square Pulse Through a Detuned Oscillatory System That

$$\phi(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-x^2} dx$$

The fundamental difficulty of calculations with the above formula lies in computing the derivatives of higher orders for the Kramp's function. In the existing tables, the highest derivative order is 20, which is insufficient by far. Some results of calculations have been verified experimentally. Discrepancies do not exceed 25%. They can be explained by the fact that the resonance characteristic has differed from the bell-shaped. The analysis shows that for a higher detuning and for a given Q-factor, the steady-state voltage is lower. A blip appears whose value is higher than the steady-state value. At some detuning values, the output-voltage envelope begins to oscillate. Similar phenomena are observed if the system Q-factor is increased with a fixed non-zero detuning.

S.I.S.

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SOV-109-3-6-21/27

AUTHOR: Khevrutin, I. S.

TITLE: Transfer of a Gaussian Pulse Through an Ideal Filter
(Prokhozheniye kolokol'nogo impul'sa cherez idealizirovanny
fil'tr)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 6,
pp 843-844 (USSR)

ABSTRACT: A Gaussian pulse having a duration τ_0 can be represented
by the integral:

$$f_1(t) = \frac{E}{\sqrt{\pi\alpha}} \int_0^{\infty} e^{-\frac{\omega^2}{4\alpha}} \cos \omega t d\omega \quad (1)$$

where $\alpha = 4 \ln d / \tau_0^2$. If the pulse is passed through a
rectangular filter having a bandwidth ω_0 and a gain k ,
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SOV-109-3-6-21/27

Transfer of a Gaussian Pulse Through an Ideal Filter

the output signal is in the form of Eq.(3) whose solution is given by Eq.(4). The output signal as expressed by Eq.(4) is plotted in the figure on p 844. The paper contains 1 figure and 3 references, 2 of which are Soviet and 1 English.

SUBMITTED: May 14, 1957.

1. Pulses - Transmission
2. Radiofrequency filters - Performance
3. Mathematics - Applications

Card 2/2

06531
SOV/142-2-2-7/25

9(3)
AUTHOR:

Khevrudin, I.S.

TITLE:

The Passage of a Bell-Shaped Radio Pulse Thru an Oscillator Circuit Having a Flat-Top Resonance Characteristic

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol. 2, Nr 2, pp 181-185 (USSR)

ABSTRACT:

The author considers problems connected with the passage of a bell-shaped radio pulse thru an oscillator circuit, whose amplitude-frequency characteristic has a flat top. He derives a formula for calculating the pulse shape at the outlet of the oscillator circuit in dependence of its parameters and pulse length. As an example, figure 3 contains a graph, showing the passage of a bell-shaped pulse passing thru a circuit with a flat-top amplitude-frequency characteristic. Considering the aforementioned graph, the author arrives at the conclusion that the pulse shapes at the circuit outlet show little difference between each other. However, an increase in the steepness of the

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AUTHOR: I.S. Khavrunin

SOV/109- -4-3-5/38

TITLE: Calculation of the Gain of an Antenna Having an
Ellipsoidal Directional Pattern (Raschet knd antennoy s
diagrammoy napravlenosti ellipsoidal'noy formy)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 3,
pp 381-388 (USSR)

ABSTRACT: The directional pattern of the antenna is expressed by:

$$\frac{x^2}{a^2} + \frac{(y - \frac{b}{2})^2}{b^2} + \frac{z^2}{c^2} = \frac{1}{4} \quad (1)$$

The maximum field intensity at a distance r from the radiator is expressed by Eq (2) where λ is the wavelength and M_1 is given by the integral on page 381. By adopting a system of spherical co-ordinates, as defined by Eq (3), Eq (1) can be written as Eq (4) where $\phi_1 = b/a$ and $\phi_2 = b/c$. The power radiated by the system is expressed by Eq (5). This can also be represented as Eq (6) where the integral I is defined by Eq (7). The gain of the antenna can be found by evaluating the integral I . For $a < c < b$ and

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Calculation of the Gain of an Antenna Having an Elipsoidal
Directional Pattern

$\phi_1 > \phi_2 > 1$ the integral is given by Eq (9a). For
 $a < b < c$ and $\phi_1 > 1 > \phi_2 > 0.7$ the integral is in the
form of Eq (9). Finally for $b < a < c$ and for
 $1 > \phi_1 > \phi_2 > 0.7$, the integral is given by Eq (9B).
The above formulae were used to determine the gain of the
antenna and the results are shown graphically in Fig 2;
this represents the gain as a function of the width of
the directional pattern in the main planes.
There are 2 figures and 1 English reference.

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SUBMITTED: January 31, 1958

6.4770

26202
8/105/60/000/002/003/009
A055/A133

AUTHORS: Dun'ye, V. L. and Khevrumin, I. S.

TITLE: Passage of radio pulses through a detuned selective channel of radio reception systems.

PERIODICAL: Elektrosvyaz', no. 2, 1960, 20 - 27

TEXT: The amplitude-frequency response of a selective channel is approximated by a bell-shaped curve in the presence of a rectangular pulse, and by a rectangular curve in the presence of a bell-shaped pulse. Formulae are derived giving the envelopes of the output pulses at different values of detuning of the selective channel pass-band and of the pulse duration. This article complements an earlier article of the same authors [Ref. 4: K voprosu o prokhozhdenii pryamougol'nogo radioimpul'sa cherez rasstroyennuyu kolebatel'nuyu sistemu s rezonansnoy krivoy kolekol'noy formy. (Passage of a rectangular radio-pulse through a detuned oscillating system with a bell-shaped resonance curve) Tekhnika televide-niya No. 23, Gosenergoizdat, M. 1957]. Passage of a rectangular pulse through a detuned selective system with a bell-shaped resonance curve: As shown in the earlier article, the envelope of the output pulse can be expressed as:

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$$U_{\text{outp}}(t') = \frac{E}{2\pi} \left[\int_{-\infty}^{\infty} e^{-a(\Omega+\omega)^2} \frac{\sin \Omega \left(t' + \frac{\tau}{2} \right)}{\Omega} d\Omega - \int_{-\infty}^{\infty} e^{-a(\Omega+\omega)^2} \frac{\sin \Omega \left(t' - \frac{\tau}{2} \right)}{\Omega} d\Omega \right] \quad (1)$$

where the pulse is, this time, determined within the range $-\frac{\tau_d}{2}$ to $+\frac{\tau_d}{2}$. E is here the input-pulse amplitude at $-\frac{\tau_d}{2} < t < \frac{\tau_d}{2}$; $\frac{\omega - \omega_0}{\omega_0} = \Omega$ is the relative passing frequency; $\frac{\omega_1 - \omega_0}{\omega_0} = C$ [Abstractor's note: C is apparently a misprint for ω] is the relative detuning (between the carrier frequency of the pulse and the resonance frequency of the system), $\omega_0 t = t'$ is the relative current time; $\omega_0 \tau_d = \tau'$ is the relative pulse-duration; $\frac{\omega_0^2}{4\beta_1} = a$ is a parameter proportional to the Q-factor of the system. Magnitude β_1 is determined by:

$$\beta_1 = \frac{\Delta \omega_0^2}{16 \ln d}$$

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where $\Delta\omega_0$ is the system pass-band at level $1/d$ from maximum level. Introducing the parameters

$$\left. \begin{aligned} \beta &= \Delta\omega_0 T_0 \\ K &= \frac{\alpha \sqrt{d}}{2 \sqrt{\ln d}} \\ \tau_0 &= \frac{t}{T_0} \end{aligned} \right\} \quad (3)$$

the authors obtain the following expression for (1):

$$U_{\text{outp}}(\beta, K; \tau_0) = \frac{E}{2} e^{-K^2 \ln d} \operatorname{Re} \left\{ \phi \left[\frac{\pi \beta (\tau_0 + 0.5)}{2 \sqrt{\ln d}} - 1.2K \sqrt{\ln d} \right] - \phi \left[\frac{\pi \beta (\tau_0 - 0.5)}{2 \sqrt{\ln d}} - 1.2K \sqrt{\ln d} \right] \right\} \quad (5)$$

where $\phi^{(2n)}$ is the $2n$ -th derivative from the probabilities integral. Direct cal-

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ulation with this formula being very difficult, the authors introduce the function

$$w(z) = e^{-z^2} \left(1 + \frac{2i}{\sqrt{\pi}} \int_0^z e^{t^2} dt \right) = u(x,y) + iv(x,y), \quad (6)$$

where $z = x + iy$. Tables exist, giving the values of $u(x,y)$ and $v(x,y)$ within a sufficiently wide range of z . The solution of (5) takes then the following form:

$$U_{\text{outp}}(x, y_1, y_2) = \frac{E}{2} \left\{ e^{-y_1^2} [u_1(x, y_1) \cos 2xy_1 - v_1(x, y_1) \sin 2xy_1] - e^{-y_2^2} [u_1(x, y_2) \cos 2xy_2 - v_1(x, y_2) \sin 2xy_2] \right\} \quad (7)$$

$$\text{where } x = 2K \sqrt{\ln d}, \quad y_1 = \frac{\pi \beta}{2 \sqrt{\ln d}} (t_0 + 0.5), \quad y_2 = \frac{\pi \beta}{2 \sqrt{\ln d}} (t_0 - 0.5).$$

The examination of the graphs corresponding to (7) leads to the following conclusions: When there is no detuning ($K = 0$), the total amplitude of the output pulse and its shape depend on β . For $\beta \approx 1.5$, the output pulse attains the steady-state value, and the pulse-shape approximates a rectangular shape. As β decreases, the total amplitude of the pulse decreases, and the pulse tends to become

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bell-shaped. Detuning also affects the size and shape of the output pulse. When it increases, the total amplitude of the pulse diminishes, and, from certain values of K upwards, oscillations appear at the pulse-fronts. Passage of a bell-shaped pulse through a detuned selective system with a rectangular frequency response. In an analogous manner, and introducing analogous parameters β , K and t_0 , the following formula is obtained for the envelope of the output pulse:

$$U_{\text{outp}} = \frac{E}{2} e^{-\alpha t_0 \ln d} \operatorname{Re} \left\{ \phi \left[\frac{\pi \beta (K + 0.5)}{2 \sqrt{\ln d}} - 12 t_0 \sqrt{\ln d} - \right. \right. \\ \left. \left. - \phi \left[\frac{\pi \beta (K - 0.5)}{2 \sqrt{\ln d}} - 12 t_0 \sqrt{\ln d} \right] \right\} \quad (13)$$

which is also expressed through tabulated functions $u(x, y)$ and $v(x, y)$. The analysis of the obtained graphs leads to the following conclusions. The absolute value of the output voltage increases with β and reaches its steady value at $\beta \approx 1.5$ and $K = 0$. The pulse is not far from being bell-shaped, but at its tails occur damped oscillations whose period is determined by the transmission band-

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Passage of radio pulse through

-width of an idealized filter. In the presence of detuning, the absolute value of the total amplitude of the output pulse decreases, and the oscillation amplitude increases. The detuning increase brings about a reduction of the pulse-duration. From certain values of K upwards, the output pulse takes the form of an oscillating voltage whose amplitude and period decrease with further detuning. The effect detuning is the greater, the greater parameter β . There are 6 figures and 5 Soviet-bloc references.

SUBMITTED: May 19, 1959.

[Abstractor's note: One subscript is translated in the text and formulae: "outp" stands for "Box"]

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26202

S/106/60/000/002/003/009

A055/A133

DEN'YEV, V.L.; KHIVRUMIN, I.S.

Passing of radio pulses through a detuned selective channel in
radio receiving devices. Elektrosviaz' 14 no.2:20-27

F '60.

(MIRA 13:5)

(Radio--Receivers and reception)

KHEYDEMAN, K. [Heidemans, K.]

Dynamics of the distribution of oil administrated perorally in the
body of a rat, Vestis Latv ak no.4:127-130 '62.

KHEYDEMAN, K.K. [Heidemanis, K.]; FREYMANE, T.Kh. [Freimane, T.]

Effect of ACH on the level of nonesterified fatty acids in the plasma of healthy persons and diabetes patients. Biul. eksp.biol. i med. 59 no.5:48-51 '65.

(MIRA 18:11)

1. Sektor klinicheskoy fiziologii i terapii (zav. - kand.med. nauk V.K.Bumayster) Latvyskogo instituta eksperimental'noy i klinicheskoy meditsiny AMN SSSR i kafedra fakul'tetskoy terapii Rzhskogo meditsinskogo instituta (zav. - prof. K.K.Rudzit).
Submitted October 9, 1963.

KHEYDEMAN, K. [Heidemanis, K.]

Comparison of some indices of fat metabolism in atherosclerotic coronary disease. Izv. AN Latv. SSR no. 2: 114-118 '63.

(MIRA 16:4)

1. Institut eksperimental'noy i klinicheskoy meditsiny AN Latvviyskoy SSR.

(LIPID METABOLISM)

(CORONARY HEART DISEASE)

(ARTERIOSCLEROSIS)

KHEYDEMAN, K.K. (Riga)

Hexonium in the treatment of pulmonary edema. Klin.med. 38
no.10:95-97 0 '60. (MIRA 13:11)

1. Iz II terapevticheskogo otdeleniya 5-y ob'yedinennoy bol'-
nitsy Riga (glavnyy vrach V.I. Sumskiy, zav. otdeleniyem Z.Z.
Krupnikova).

(AMMONIUM COMPOUNDS)

(PULMONARY EDEMA)

VYSOTSKIY, R. [Visockis, R.]; KHEYDEMAN, K. [Heidemans, K.]

Distribution of I^{131} tagged fat during a fat load in white rats of various ages. Vestis Latv ak no.7:119-121 '62.

FREYMAN, T. [Freimanis, T.]; KHEYDEMAN, K. [Heidemans, K.]

Effect of prednisolone on glucose and nonesterified fatty acid
metabolism in diabetes mellitus; preliminary report. Izv. AN Latv.SSR.
no 3:78-79 '63.

1. Institut eksperimental'noy i klinicheskoy meditsiny AN Latvyskoy
SSR. (MIRA 16:5)

(PREGNA)

(METABOLISM)

(DIABETES)

EKKERT, H.R.; KHEYDEY, A.A.; MINNOVICH, V.Zh.; GRUSHANOV, L., tekhn.
red.

[Heat transfer, reduction temperature and surface friction in
a plane plate with hydrogen injection into the laminar boundary
layer] Teploobmen, temperatura vosstanovleniia i poverkhnostnoe
trenie na ploskoi plastine s podachei vodoroda v laminarnyi po-
granichnyi sloi; soveshchanie po teplo-i massoobmenu, g. Minsk,
5-10 iyunia 1961 g. Minsk, 1961. 34 p. (MIRA 15:2)
(Boundary layer) (Heat--Radiation and absorption)
(Mass transfer)

KHEIFETS, A.

Unforgettable days. Prom.koop. 14 no.4:3 Ap '60. (MIRA 13:6)
(Lenin, Vladimir Il'ich, 1870-1924)
(Moscow--Exhibitions)

KOCHETOV, V.; GOLOVANOV, V.; KHEYFETS, A.

For Soviet children. Mest.prom. 1 khud.promys. 1 no.1:30-31
0 '60. (MIRA 14:3)

(Toy industry—Exhibitions)

KHEYFETS, A.; YEGDROV, P.

Moscow Fair. Mest.prom.1 khud.promys. 1 no.2/3:56-57 N-D '60.
(Moscow--Fairs) (House furnishings industry) (MIRA 14:4)

Khelidze, A.M.

CH

Processes and Properties Index

Soviet gum-arabic. A. M. Khelidze. *Farmatsiya* 7, No. 8, 37-8 (1944). --it was found that the wattle (*Acacia dealbata*), a sub-tropic plant, can serve as a source for gum-arabic.

Sonya G. MacNeilson

17

ADN-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM STWISLAW

FROM BOWLING

FROM BOWLING

FROM BOWLING

KHEYFEITS, Ye.B., inzh.; VAYNSHTEYN, B.Z., inzh.; GUDAVADZE, G.G., inzh.;
ZHITKOV, N.Ya., inzh.

New design of a reversing switch for electric rolling stock and
diesel locomotives. Elektrotehnika 35 no.11:11-12 N '64.

(MIRA 18:6)

SMOLYANITSKIY, V.Z.; KHEYFETS, A.A.

Paints for rubber goods. Kauch. i rez. 24 no.10:43-44 '65.

(MIRA 18:10)

1. Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy.

KHEXFHPS, A1. (Zagorsk, Moskovskoy oblasti).

Carver's anniversary. Prom.koop. no.8:19 Ag '57. (MLRA 10:9)
(Ryzhov, Nikolai Ivanovich)

L 3179-66 ETC(m) NW

ACCESSION NR: AP5015353

UR/0286/65/000/009/0098/0099
681.14

AUTHOR: Chekalov, D. I.; Mulyar, L. G.; Krasikov, V. I.; Miroshnichenko, A. K.;
Smirnov, N. Ye.; Khaychik, A. I.; Smirnov, K. F.; Obukhov, Yu. A.; Vorotsov, A. M.;
D'yakov, O. M.; Dubov, G. B.; Alipov, A. N.

TITLE: Electronic instrument for measuring velocity, distance traversed, and time.
Class 42, No. 170776

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 98-99

TOPIC TAGS: tellurometer, radio rangefinder, geodetic instrument

ABSTRACT: An Author Certificate, issued for a device which measures velocity,
distance traversed, and time, combines a high-precision tellurometer, a phase
recorder equipped with a unit for converting sinusoidal signals to pulsed signals,
and a unit for measuring phase differences. Readings are made visually. The
circuit connections of the device, consisting of a series of computer-type modules,
are described in detail.

ASSOCIATION: none

[SP]

Card 1/2

L 3179-66

ACCESSION NR: AF501533

SUBMITTED: 04Mar63

ENCL: 00

SUB CODE: ES, EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4025

PC
Card 2/2

SOV/120-58-5-13/32

AUTHORS: Brish, A.A., Dmitriyev, A.B., Kosmarskiy, L.N., Sachkov, Yu.N., Sbitnev, Ye.A., Khevyets, A.B., Tsitsiashvili, S.S., and Evg, L.S.

TITLE: A Vacuum Spark Switch (Vakuumnyye iskrovyye rele)

PERIODICAL: Priory i tekhnika eksperimenta, 1958, Nr 5, pp 53-58 (USSR)

ABSTRACT: The device consists of an evacuated glass envelope which contains 3 electrodes (see the general diagram of Fig.1). The principal discharge gap comprises a complex cathode consisting of two electrodes which form an auxiliary discharge gap. The two cathode electrodes are separated by means of a fine mica plate; when a triggering pulse is applied, a discharge is formed on the surface of the mica. Fig.2 shows 5 alternative solutions of the electrode systems of vacuum spark switches. Fig.3 shows photographs of actual switches (tubes 4, 5, 6 and 7) and photographs of 3 thyristors (tubes 1, 2 and 3) for the purpose of comparison. The basic parameter of a switch is its anode voltage V_a , its operating current I and its triggering breakdown voltage V_{tr} . The anode operating voltages up to 20 kV could be obtained with a discharge gap of 1 mm. The values of the

Card 1/3

A Vacuum Spark Switch

SOV/120-58-5-13/32

Discharge current are determined primarily by the external parameters of the circuit in which the switch is employed. The currents can be very high since the tube is "extinguished" at a current of about 20 A. The energy required for the initiation of the main-gap breakdown is very small. Thus the switch can be triggered by the energy stored in a capacitance of about 5 μt , but the triggering voltage should be at least 1500 V. The switch is subject to some time delays. The overall delay is $T = t_1 + t_2 + t_3$, where t_1 is the time between the commencement of the triggering pulse and the inception of the trigger gap discharge; t_2 is the time lag between the commencement of the auxiliary discharge and the inception of the main-gap discharge, and t_3 is the formative time of the main gap discharge. These time delays are illustrated graphically in Fig.4. In actual tubes the formative times of the main discharge were of the order of 0.03 μs . The electrical characteristics of a spark

Card 2/3

A Vacuum Spark Switch

SOV/120-58-5-13/32

switch are affected by the number of switchings performed. This is illustrated in Fig.11, which shows the ignition voltage of the auxiliary gap as a function of the number of switchings N : it is seen that the voltage decreases with N . The paper contains 11 figures and no references.

SUBMITTED: November 15, 1957.

Card 3/3

05438

SOV/120-59-3-9/46

AUTHORS: Dmitriyev, A. B., Peskov, D. I., Kheyfets, A.B. and Chaykovskiy, V. G.

TITLE: Dose Characteristics of Low Voltage Halogen Counters (Dozovyye kharakteristiki nizkovol'tnykh galogennykh schetchikov)

PERIODICAL: Priory i tekhnika eksperimenta, 1959, Nr 3, pp 47-49 (USSR)

ABSTRACT: The dose characteristics of the low voltage halogen counters STS-1, STS-2, STS-5, STS-6, STS-8, SGS-5, SGS-6, SBT-10 and SGS-7 have been measured and are now reported. The parameters of the first six counters were given by Dmitriyev (Ref 2, a review paper). The SGS-6 counter is similar to the SGS-5 but its cathode has a longer working length. The SBT-10 is designed to detect soft β -radiation and has a 30 cm² mica window. It consists of ten sections placed in a common envelope. The cathode of each section is in the form of a half-cylinder, 5 mm in radius. The anode of each section is 55 mm long and has a separate output terminal. In the SGS-7 counter the cathode and the anode are in the form of discs 10 mm and 0.5 mm in diameter, respectively. The gap between the discs is 1 mm. The electrical

Card 1/4

05438

SOV/120-59-3-9/46

Dose Characteristics of Low Voltage Halogen Counters

parameters (threshold, length and slope of the plateau) of SBT-10, SGS-6 and SGS-7 are analogous to the parameters of all the low voltage halogen counters described in Ref 2. Table 1 gives the main parameters of the counters. The first column gives the type of the counter, the second column the cathode diameter in mm and the third column the working length of the anode in mm. The counting rate was measured using the PS-10000 meter, the input sensitivity being 0.1 V and the resolving time 1 μ sec. The irradiation was carried out using Co^{60} sources whose activity was 0.01-5 Ra g equiv. The dose was determined to within $\pm 10\%$. In the experiments the SBT-10 counter was connected as shown in Fig 1, while all the remaining counters were connected as shown in Fig 2. The dose characteristics and the plateau slope were determined using $R = 10^5$ Ohm. Figs 3 and 4 show the dose characteristics of the above counters measured at the working voltage. It is clear that in the majority of the counters there is a maximum counting rate on the dose characteristic. This is explained by the considerable reduction in the

Card 2/4

05438

SOV/120-59-3-9/46

Dose Characteristics of Low Voltage Halogen Counters

pulse height at large counting rate. Under these conditions the potential difference across the counter is not fully established. Since halogen counters give pulses with unequal amplitudes (Ref 3) it follows that some of the pulses may fall below the threshold of the detecting device. Table 2 gives the dose characteristics of the counters, where column 1 gives the type of the counter, column 2 the dose range in $\mu\text{r}/\text{sec}$, column 3 gives the counting rate at the appropriate dose in pulses/sec and column 4 the maximum counting rate in pulses/sec. Table 3 gives the dependence of the plateau slope on the dose, in which the first column gives the dose in $\mu\text{r}/\text{sec}$ and the second and third columns give the plateau slope in percent/Volt for the STS-5 and SGS-5 counters, respectively (the headings of columns 4, 5 and 6 are the same as those of 1, 2 and 3). Table 4 gives the resolving time of the counters. Column 1 of this table gives the type of the counter, columns 2 and 3 the resolving time in μsec at 100 pulses/sec and at maximum counting rate, respectively (columns 4, 5 and 6 have the same headings as 1, 2 and 3). The load resistance has a

Card 3/4

A. N. KHEYFETS

Novaya istoriya stran Zaurbezhnogo Vostoka [by] A. A. Guber [1] A. N. Kheyfets.
Moskva, Uchpedgiz, 1961.

437 P. Maps.

Bibliographical footnote.

L 20151-66 ACL NR. AT6008790	REF(1) ER/01	SOURCE CODE: UR/2657/65/000/014/0196/0210
AUTHOR: Karmazinskiy, A. H.; Khayfets, A. Sh.; Malin, B. V.; Sonin, M. S.		38 BT/
ORG: none		
TITLE: Register using field-effect transistors		
SOURCE: Poluprovodnikovye pribory i ikh primeneniye; sbornik statey, no. 14, 1965, 196-210		
TOPIC TAGS: shift register, transistorized circuit, field effect transistor		
ABSTRACT: A shift register based on flip-flops consisting of d-c-coupled field-effect transistors is described. Two variants, differing only in the reset circuits for each flip-flop, were tested. The two reset variants are shown in Fig. 1. A 2-bit shift register based on the configuration of Fig. 1a is shown in Fig. 2. The information stored in the register is shifted by one place in four steps. In the initial state, flip-flops T ₁ , T ₂ store information and T ₁ , T ₂ are reset to the 0 state. A pulse on sample terminal 1 transfers the information from T ₁ , T ₂ to T ₂ , T ₁ . A second pulse on reset 0 resets T ₁ , T ₂ . A third pulse on sample terminal 1 transfers the information from T ₁ , T ₂ to T ₂ , T ₁ . Finally, the fourth pulse on reset 0 resets T ₁ , T ₂ . When a bias voltage of 15 v is used, the 0 state is identified by 11 v and the 1 state, by 3 v. The criterion of proper operation of the register was taken to		
Card 1/3		

L 20451-66
ACC NR: AT6008730

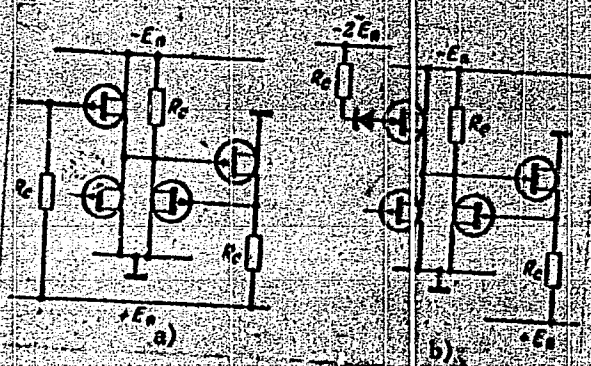


Fig. 1. Set and reset circuits

be the absence of errors when bit combinations 11 and 01 were circulated. The register performed satisfactorily with individual bias voltage fluctuations of $\pm 10\%$, combined bias voltage fluctuations of $\pm 20\%$, input-signal variations of $\pm 15\%$, and resistance variations in the drain circuit of $\pm 50\%$. The maximum working frequency for the register based on Fig. 1a was 30 kc; for the one based on Fig. 1b was 43 kc. At 20 C, the fan-out was 4-5. The speed of the shift register may be increased by a

Card 2/3

1. 20151-66

ACC NR:

AT6008790

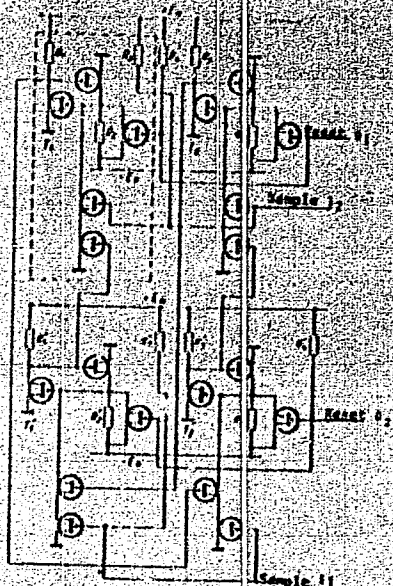


Fig. 2. Two-stage shift register

factor of 10—15 if field-effect transistors with transconductance of 1 mamp/v are used instead of those with transconductance of 0.1—0.4 mamp/v. Orig. art. has: 10 figures.

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS [8D] 222

Card 3/3 mgs

KHEYFETS, A.Ye.

A progressive artel's quarter of a century. Det. khor. igr.
no.1:66 '55. (MLRA 10:2)

(Toys)

28(3); 25(?)

SOV/28-59-4-15/19

AUTHORS: Kaufman, H.Ya., Engineer; Kheyfets, A.Z., Engineer;
Bortovskiy, B.V. and Kirilenko, A.G., Engineers,
(Odessa)

TITLE: To The Revision of The Standards "Drawings System"
(K peresmotru standartov "Sistema chertezhnogo
khozyaystva)

PERIODICAL: Standartizatsiya, 1959, Nr 4, pp 34-35 (USSR)

ABSTRACT: Three separate letters to the periodical point out
shortcomings in the existing standards for technical
drawings, a draft of a new standard, and amend-
ments. The faults are: too cumbersome designations
of materials, vague recommendations concerning the
place of dimension lines and figures and the de-
signations of finish, superfluous lists and speci-
fications requiring a lot of work of designers and

Card 1/2

SOV/28-59-4-15/19

To The Revision of The Standards "Drawings System"

copyists and being used by nobody, the rule to indicate the name and number of "GOST" standards in drawings, causing amendments in thousands of drawings when slight amendments are made in a material standard. There are 2 diagrams.

ASSOCIATION: Irkutskiy filial NIIKhIMMASH (Irkutsk Branch of the NIIKhIMMASH) (R. Ya. Kaufman, Engineer)

Card 2/2

KHEYFETS, B.

Schools of communist labor experience. Mias.ind.SSR 35 no.1:6-8
'64. (MIRA 17:4)

1. Leningradskiy ordena Trudovogo Krasnogo Znameni myasokombinat
imeni S.M.Kirova.

KHEYFETS, B. I. Y POLYAKOVA, N. E.

O Toke Obmena Bodoroda Y Perenapryazhenii Bydeleniya Bodoroda Na Gladkoy Platine.
Zhurnal Prikl. Khimii, 1949, No. 8, S. 801-08. - B ibl'ogr: 8 Nazv.

26972

SO: LETOPIS NO. 34

KHEFFETS, B.L.

FEDOT'YEV, Nikolay Pavlovich; GRILIKHES, Semen Yakovlevich; LAYNER, V.I.,
professor, retsuzent; KHEFFETS, B.L., kandidat khimicheskikh
nauk, redaktor; VASIL'YEVA, V.P., redaktor izdatel'stva;
POL'SKAYA, R.G., tekhnicheskii redaktor

[Electrochemical pickling, polishing and oxidation of metals]
Elektrokhimicheskoe travlenie, polirovaniye i oksidirovaniye
metallov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1957. 242 p. (MIRA 10:5)
(Oxidation, Electrolytic) (Electrolytic polishing)
(Metal--Pickling)

KHEYFETS, B.M.

Electric muffle furnace for the fixation of colors on ceramic articles. Len. prom. no. 4:57-59 D-D '62. (MIRA 16:5)

1. Vinnitskiy kombinat "Budindustriya".
(Pottery) (Electric furnaces)

USSR/Engineering

KHEYFETS, B. S.
Card 1/1 : Pub. 41-3/18

FD-1376

Author : Kheyfets, B. S.

Title : Use of approximate formulas for calculation of multiple integrals in engineering practice

Periodical : Izv. AN SSSR. Otk. tekhn. nauk 3, 39-48, March 1954

Abstract : Presents new method for calculating volumes in engineering practice, discussing in detail application of formulas developed in this method for determining volumes of peat deposits and for calculating amount of earthwork. Formulas, tables, diagrams, references.

Institution : (1)

Submitted : April 19, 1954. by L. A. Lyusterni, Corresponding Member, Acad of Sciences, USSR

AUTHOR: Kheyfets, B. S., Engineer SOV/154-58-1-10/22

TITLE: The Use of Polynomes in Mathematical Interpretation of the Complexity of Terrain Relief (Primeneniye polinomov dlya matematicheskoy kharakteristiki slozhnosti re'yefa zemnoy poverkhnosti)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Geodeziya i aerofotos'yemka, 1958, Nr 1, pp 79-86 (USSR)

ABSTRACT: It is pointed out that it is appropriate to predetermine the degree of the polynome with which a given relief of terrain should be approximated. The solution of this problem leads to a new method of estimating the terrain relief. It is shown here how this method can be used for a terrain profile by means of a function of one variable and for a terrain section by means of a function of two variables. Moreover, it is shown how an analytic expression can be obtained for the approximating polynome in the solution of practical and scientific problems. There are 5 figures, 8 tables, and 3 references, 3 of which are Soviet.

Card 1/2

The Use of Polynomials in Mathematical Interpretation of the Complexity of
Terrain Relief

SOV/154-58-1-10/22

ASSOCIATION: Moskovskiy institut inzhenerov gorodskogo stroitel'stva
Mosgorispolkoma
(Moscow Engineering Institute of City Planning of the
Mosgorispolkoma)

Card 2/2

MOLOCHNIKOV, M.V.; SHEPCHENKIN, V.A.; KHEYFETS, B.J.

Drive for a blast furnace charge distributor. Biul. TSIICM
no. 5:44-46 '61

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722010006-3

(Blast furnaces--Equipment and supplies)

KHEYFETS, B.S., inzh.

Approximating a topographic surface using P.L. Chebyshev's
orthogonal polynomials. Izv. vys. ucheb. zav.; geod. i aerof.
no.2:78-86 '64. (MIRA 17:9)

1. Moskovskiy inzhenerno-stroitel'nyy institut imeni V.V.
Kubysheva. Rekomendovana kafedroy geodezii.

KHEYFETS, B.S., insh.

Accuracy of determining area volumes from parallels on a map
using a planimeter. Izv.vys.ucheb.zav.; geod.i aerof. no.4:
83-88 '62. (MIRA 16:2)

1. Moskovskiy inzhenerno-stroitel'nyy institut imeni V.V. Kuybysheva.
(Topographic surveying) (Planimeter)

KHEIFETS, D.,

Television

Synchronization diagram. Radio 29 no. 1. 1952

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED

KHEYFETS, D.

AUTHOR: Kheyfets, D.

107-9-32/53

TITLE: The "Key" Diagram of the Automatic Gain Control in TV Sets
("Klyuchevaya" skhema ARU v televizorakh)

PERIODICAL: Radio, 1957, # 9, p 43-44 (USSR)

ABSTRACT: This article gives a description of utilizing the automatic gain control system. In TV sets the proportionality between the values of the controlling voltage and the HF voltage can be disturbed at any time. An automatic gain control system utilizing a peak-detector for obtaining the controlling voltage can eliminate this deficiency, but it has other essential deficiencies due to the time-constant. The proportionality between the controlling voltage of the automatic gain control and the HF voltage can be attained only if the constant component of the video signal is not lost because of the detector. Therefore, only the IF voltage is to be applied to the detector for obtaining the controlling voltage. A good operation is obtained with the automatic gain control system, shown by figure 1. The synchronizing and the line scanning impulses are applied almost simultaneously to the grid of the tube, through which the current passes only within the time of passage of the synchronizing line impulses. The time-constant of this original peak-detector

Card 1/2

The "Key" Diagram of the Automatic Gain Control in TV Sets

107-9-32/53

can be small and the operation of the system will remain stable. Figure 2 shows a practical application of the "key" diagram of the automatic gain control system. In this diagram, the full video-signal is transmitted to the cathode circuit and the optimum ratio between the video and the noise signals is obtained. The article contains 2 figures.

AVAILABLE: Library of Congress

Card 2/2

KHEYFET⁸, D.

"Circuit synchronization."

So. Radio, Vol. 1, p. 39, 1952

AUTHOR: Kheyfets, D., Chief of the Section

SOV/107-59-1-9/51

TITLE: ~~New TV Set Designs~~ are Needed (Nuzhny novyye konstruktsii televizorov)

PERIODICAL: Radio, 1959, Nr 1, p 12 (USSR)

ABSTRACT: The author gives suggestions on how to increase the production of TV sets during the next few years, so that the total number of TV sets in use could be increased to 12.5 million by 1965. None of the TV sets now being produced are suitable for mechanical or automatic production. Therefore, the author proposes the designing of two new models using printed circuits and a number of new parts including dynamic loudspeakers, tubes and crystal diodes, plastic casings, and a kinescope with glass bulb and a deflection angle of 110 degrees. The production of the first model should reach at least 1.5 million sets, and the second one - 200-250 thousand sets annually to reach the planned 12.5 million sets in use by 1965.

Card 1/2

New TV Set Designs are Needed

SOV/107-59-1-9/51

ASSOCIATION: Televizionnyy otdel radiozavoda (The Television Section
of a Radio Plant).

Card 2/2

INISYFETE, D., inch.

"Temp-6" and "Temp-7" television receivers. Radio no. 9:24-
30 S '61. (MIRA 14:10)
(television--Receivers and reception)

KHEYFETS, D., inzh.

Networks of scanning devices for 110° kinescopes. Radio no.1:
26-29 Ja '64. (MIRA 17:8)

KHEYFETS, D.I., inzh.; KURBATOV, S.V., inzh.

Air conditioning of space with intensive artificial lighting.
Vod. i san. tekhn. no.10:36-37 0 '65. (MIRA 18:11)

KHEYFETS, D.I., inzh.

Experimental determination of the optimal system of air-conditioning
museum exhibit cases. Vod. 1 san. tekhn. no.1:30-31 Ja '66.
(MIRA 19:1)

KHBYFETS, D.I.

Regulating the heating capacity of heaters in air-conditioning
systems. Vod.1 san.tekh. no.4:18-22 Ap '60.

(MIRA 13:6)

(Air conditioning)

KHEYFETS, D.I.; BRODSKIY, V.N.

Automatic control of the operation of heaters in ventilation and
air conditioning systems. Prom. energ. 15 no.10:19-24 0 '60.

(MIRA 13:11)

(Air conditioning)

(Hot-water heating--Regulators)

KHEYFETS, D.I., inzh.; SHARGORODSKIY, Yu.A., inzh.; LERNER, I.I., inzh.;
ORENTLIKHER, P.B., inzh., red.; VENTSKEVICH, L.A., red. izd-va;

[Instructions for testing and adjusting air conditioning systems]
Instruktsiia po ispytaniu i naladke sistem konditsionirovaniia
vozdukha. Utv. 6 dekabria 1961 g. Moskva, TSentr. biuro tekhn. in-
formatsii. Tekhn. upr., 1962. 100 p. nomogr. (MIRA 16:2)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye sanitarno-
tekhnicheskogo montazha.

(Air conditioning—Equipment and supplies)

KHEYFETS, D.I., inzh.

Adjustment of the water spray chambers of central air conditioners.
Khol. tekhn. 40 no.4:58-61 J1-Ag '63. (MIRA 16:8)

(Air conditioning—Equipment and supplies)

SHEYFET, D.
 Co

The composition and properties of phosphates of iron obtained under different conditions of precipitation. D. Kheifets. *Chemical Abstracts of Soviet Union*. (U. S. S. R. No. 6-8-10 (1953)). Iron phosphate precipitated at pH 2.0-2.8 from a FeCl_3 soln. with lime water attains a cryst. structure 10-20 hrs. after pptn. The compn. is $\text{FePO}_4 \cdot 2\text{H}_2\text{O}$. At pH 2.0, 2.5, 3.0 a no. of complexes varying in properties and structure are formed. If the reagents are in contact but a short time the ppt. is amorphous, yellowish white, filters slowly and contains Ca, Fe and phosphate. After prolonged contact of the reagents the ppt. becomes cryst. It then consists of 2 fractions, coarse and fine, which differ in appearance, sp. gr. and microscopic structure. The coarse fraction consists of Crystalline phosphate, close to the compn. of $\text{CaH}_2\text{P}_2\text{O}_7$. From the soln. data, in 2% citric acid, and from the titration curve, it is apparent that there is an admixt. of tricalcium phosphate. The fine fraction is a white or pinkish white powder of uniform structure and consists of Fe, phosphate and Ca. Stoichiometrically it is $\text{Fe}_2(\text{PO}_4)_3$ with an admixt. of $\text{Ca}_3(\text{PO}_4)_2$. It is insol. in 2% citric acid; 35-40% is sol. in Peterman's reagent. It resembles in this respect the pure FePO_4 . There is a difference in the sol. of the cryst. and amorphous materials, the latter being more sol. Vegetation tests with the 2 types of phosphates show that the amorphous material is more available.

J. S. Joffe

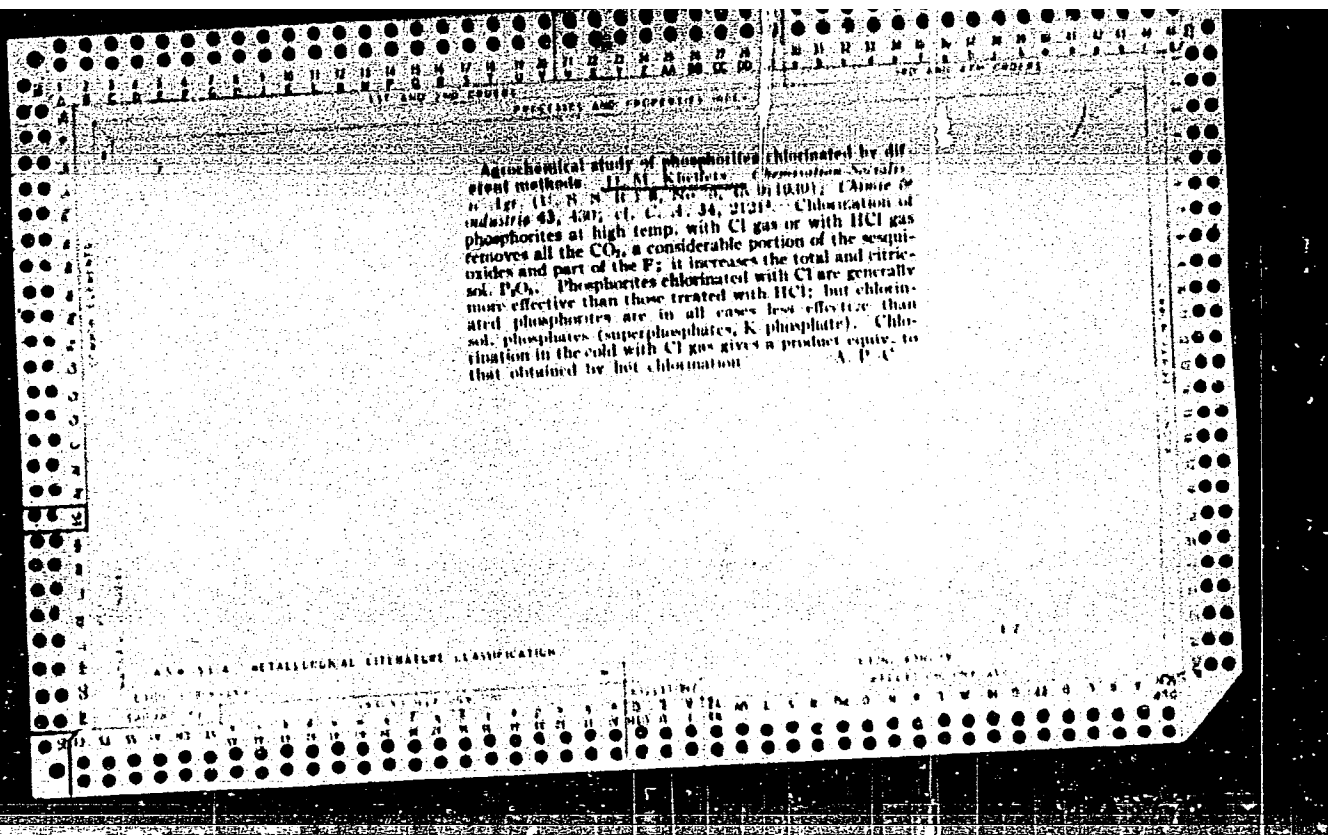
15

Iron and aluminum phosphates as sources of phosphoric acid for plants. D. L. Askinazi and D. M. Khoshdel. *Trans. Sci. Inst. Fertilizers Insectofungicides* (U.S.S.R.) No. 141, 47-70 (1938); *Chem. Zentr.* 1939, II, 3173; cf. C. A. 34, 21219c. A study is reported on the properties and availability by plants of the phosphates of sesquioxides (FePO_4 , AlPO_4) which were prep'd. under definite conditions as regards the ratio of R_2O_3 to P_2O_5 , the temp. of drying, the pH, etc. RPO_4 preps. pptd. by NH_3 or lime water at a pH of 2.5, 3.5 or 5.0 were only slightly sol. in 2% citric acid but dissolved completely in Petermann's soln. The soly. of the P_2O_5 did not change appreciably within the pH limits 3.0-6.5. Preps. high in the sesquioxides showed a low content of water-sol. P_2O_5 . Vegetation expts. showed FePO_4 to be less readily assimilable by plants than AlPO_4 . M. G. Moore

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

13

THE EFFECT OF THE COMPOSITION AND STRUCTURE OF IRON AND ALUMINUM PHOSPHATES ON THE GROWTH OF PLANTS (1) M. Kholodkovskii (Leningrad, U.S.S.R.), *Sov. Soil. Fert.*, 1958, (1958), 1, No. 11-12, 74 No. 141, 70-87; *Khim. Refrat. Zhur.*, 1, No. 11-12, 74 (1958); cf. C. A. 31, 17179. — Cryst. $\text{Fe}(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$ and $\text{Al}(\text{PO}_4)_3 \cdot 2\text{H}_2\text{O}$ are obtained by pptn. from soln. with CaCO_3 and by lime water at pH 2.8. Their sol. in Peterman's soln. is less than 50%. Similar phosphates are obtained at pH 3.0-4.2, by longer action of the reagents. Amorphous ppts. are first obtained, which are completely dissolved in Peterman's reagent. In expts. with oats on acid clay soils the amorphous RPO_4 was equiv. to "precipitate" and to double superphosphates. The effect of cryst. RPO_4 is only half that of amorphous RPO_4 . By the action of NH_3 on solns. of Fe phosphate the following complex salts can be formed: (1) yellow-green $\text{NH}_4_2\text{Fe}(\text{PO}_4)_2 \cdot 4\text{H}_2\text{O}$ formed at pH about 4.5, (2) colorless $\text{NH}_4_2\text{Fe}(\text{PO}_4)_2 \cdot 4\text{H}_2\text{O}$ formed at pH 3.8 and lower. (1) is slightly sol. in Peterman's soln., and is little available to the plants (according to the expts. with oats on acid clay soils); (2) and (3) are almost completely dissolved in the Peterman's soln. and, are more available than (1) in podzol, but are also comparatively little available in chernozem. W. R. Henn



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2A

Determination of inorganic and organic compounds of phosphorus; their content in several soils of the Soviet Union. D. M. Kbellets. *Pedology* (U.S.S.R.) 1948, No. 2, 100-112. Using a slight modification of the Dyer and Wrenshall (C.A. 35, 6043) and Wrenshall and Dyer (C.A. 33, 8890) methods of detg. the org. forms of P in soils, Kh. found that 4.0 N HCl and 4% NH₄OH exts. contain, in general, 87-89% of the P in surface soils as detd. by the HF ext. (total P). The P from the profile, extd. by this method, varies from 52 to 80% of the total. The P that remains after the first extn. consists of inorg. forms of P. In podzols, gray podzolic, chernozem, and red loams, the relative quantity of org. forms of P decreases with depth in the profile and the inorg. forms of P increase with depth. In gray podzolic and chernozem soils, the change from org. to inorg. P is gradual with depth in profile. In podzols and red loams, the change is more abrupt. The percentage concn. of org. phosphates in soil org. matter varies with the soil type: 0.8-0.9% for the surface horizon of chernozem; 0.97% for chestnut brown; 1.4-1.8% for the podzolized soils, gray semidesert, and red loams; 0.64% for solonchaks. With depth, the relative content of org. P increases in all soils. In the upper horizons of the strongly podzolized soils and gray

over

ASH-SLA: METALLURGICAL LITERATURE CLASSIFICATION

CA

Phosphorous reserves in various soils of the Soviet Union.
 11. M. Kheifits. *Trudy Pechennogo Inst. im. V. V. Dokuchaeva* 33, 5-19 (1950).—The estimates of P reserves in soils to 1 m. depth were made on the basis of a literature survey. Unlike N, the P content does not always correspond to the humus content. Most abounding in P are the chernozems, brown, particularly light brown soils, and gray soils. Least P is in podzols and red soils. The humus in brown and gray soils is rather low while the red soils contain considerable quantities of it. P combined with org. matter makes up in chernozems 30, in podzolic and brown soils 25, and in gray soils 20% of total P content. The org. P and total N contents diminish with depth. This is most pronounced in podzolic soils and to a lesser extent in forest-prairie soils and gray soils. In deep chernozems and brown soils there is no diminution of P, N, and humus down to 50 cm. In chernozems a diminution is observed at a depth of 80-100 cm. M. Huseh

CA

Increasing the effectiveness of nitrogenous fertilizers for flax in connection with changing the composition of the soil solution. D. M. Khellets. *Trudy Pishchennogo Inst. im. V. V. Dokuchaeva* 33, 68-81 (1950). The purpose of this investigation was to det. the relative merits of org. and inorg. N, to det. the dosage of P to enhance the effectiveness of increased quantities of N, and to study the preferred mode of application (depth) of P and N. The effectiveness of N fertilizer could be enhanced by either gradual addn. of N or by increasing the dose of P and supplying it locally for ready access by the young roots. Org. P was preferable to inorg. Large quantities of N should be placed deep to prevent its contact with young roots. M. Hosen

~~KHEIFETS, D. M.~~ KHEYFETS D. M.

Reserves of phosphorus in different soils of the Soviet Union.
D. M. Kheifets (Trudy Pochv. Inst. Dokuchayeva, 1950, 33, 5—19;
Soils & Fert., 1951, 14, 362).—About 30% of the P reserves occurred
in org. combination in chernozems and grey wooded-steppe soils;
about 25% in podzols and chestnut soils, and < 20% in serozems.
The decrease in org. P reserves on passing from the ploughed to
the unploughed horizon was most marked in podzols and least marked
in wooded-steppe soils and serozems. On heavy chernozems and
chestnut soils there were no differences in the P, N, and humus
contents down to a depth of 50 cm.; on chernozems a difference
occurred only at 80—100 cm. (C. B. Nason)

KHEIFETS, D.M.

Food conditions of the terrace soils of the Kutuluka irrigation system.
Trudy Pochvennogo Inst. im. V.V. Dokuchaeva, Akad. Nauk S.S.S.R. 37, 346-55
'52. (MLRA 6:3)
(GA 47 no.21:11626 '53)

Khefets, D. M.

USSR/Cultivable Plants - Grains.

M-2

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10709

Author : Khefets, D.M.

Inst : ~~USSR Academy of Sciences~~

Title : A Nutrition Regime for the Spring Wheats on the Fertile Chernozems of the Kursk ZONS and the Effect of Irrigation on It.

Orig Pub : Orosneniye s.-kh kul'tur v Tsentr.-chernozem. polose RSFSR, No 2, Moskva, AN SSSR, 1956, 348-372

Abstract : The yield increases in Lyutetsens 62 and Gordeiform when irrigated and at the same time, fertilized with NPK were, respectively, 9 centners/hectare and 10.5 centners/hectare. When irrigation is combined with application of P_2O_5 and K_2O , the doses of N have to be increased. The doses of K_2O , which increases yields significantly, must be somewhat reduced in wetter years and when the wheat is irrigated. Lyutetsens 62 needs more fertilizer than Gordeiform

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Card 1/2

USSR/Cultivated Plants - Grains.

M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44032

Author : Kheyfets, D.M.

Inst : Soil Institute of the AS USSR

Title : Study of the Nutrient Rate of Spring Wheat on Strong Chernozems and the Effect of Irrigation on the Feeding Regime.

Orig Pub : Tr. Pochv. in-ta AN SSSR, 1957, 50, 79-123

Abstract : At the Kursk zonal experimental station the individual years of study differed considerably from the standpoint of meteorological conditions. In 1949, 1950 and 1952 during the period of germination and the beginning of shoot formation in spring wheat, precipitation was insufficient. This is typical of the region. Watering by rain in these years took place at the end of May and

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USSR/Cultivated Plants - Grains.

M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44032

beginning of June. The moisture content in the plowed layer dropped to 10-16% in different years on unirrigated plots and on the irrigated plots it was maintained at not lower than 20% (the wilting point was 14-15%). Irrigation of both fertilized and unfertilized plots increased the grain yield of wheat variety Lutescens 62 on an average by 3 centners/ha. With this the total amount of N in the crop rose considerably, the amount of K rose to a lesser degree and accumulation of P was almost unchanged. Complete mineral fertilization secured an increase in the wheat yield - about 5-6 centners/ha under irrigated and unirrigated conditions. Simultaneous use of irrigation and fertilizers increased the wheat crop on an average by 9 centners/ha while the yield on unirrigated and unfertilized plots was 12 centners/ha. The soft wheat Lutescens 62 contains at separate stages of development more N, P and K regardless of introduced fertilizers than

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KHNYFETS, D.M.

Distribution of phosphorus and potassium in soils of the rhizosphere
and outside it. Trudy Pochv. inst. 55:165-191 '60. (MIRA 13:11)
(Soils--Phosphorus content) (Soils--Potassium content)
(Roots (Botany))

KHEYFETS, D.M.

Nutrient balance of deep Chernozems under forest, steppe, and field crops in the Kursk Preserve. Pchovovedenie no. 2:18-25 F '61. (MIRA 14:2)

1. Pochvennyy institut im. V.V. Dokuchayeva AN SSSR.
(Kursk Preserve—Chernozem soils)

KHEYFETS, D.M.

Determining the available phosphate content in acetate-buffer
soil extracts. Pochvovedenie no.5:114-122 My '62. (MIRA 15:6)

1. Pochvennyy institut imeni V.V.Dokuchayeva.
(Soils--Analysis) (Soils--Phosphorus content)